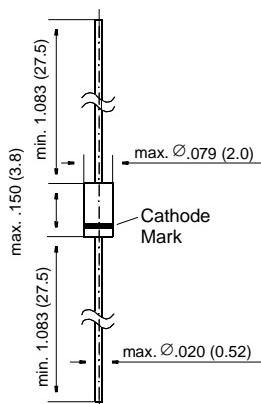


BAT42, BAT43

Schottky Diodes

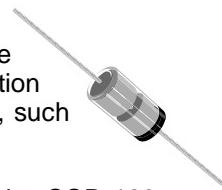
DO-35



Dimensions in inches and (millimeters)

FEATURES

- ◆ For general purpose applications
- ◆ These diodes feature very low turn-on voltage and fast switching. These devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges.
- ◆ These diodes are also available in the SOD-123 case with the type designations BAT42W to BAT43W and in the MiniMELF case with type designations LL42 to LL43.



MECHANICAL DATA

Case: DO-35 Glass Case

Weight: approx. 0.13 g

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

| | Symbol | Value | Unit |
|---|-----------|-------------------|--------------------|
| Repetitive Peak Reverse Voltage | V_{RRM} | 30 | V |
| Forward Continuous Current at $T_{amb} = 25 \text{ }^{\circ}\text{C}$ | I_F | 200 ¹⁾ | mA |
| Repetitive Peak Forward Current at $t_p < 1 \text{ s}$, $\delta < 0.5$, $T_{amb} = 25 \text{ }^{\circ}\text{C}$ | I_{FRM} | 500 ¹⁾ | mA |
| Surge Forward Current at $t_p < 10 \text{ ms}$, $T_{amb} = 25 \text{ }^{\circ}\text{C}$ | I_{FSM} | 4 ¹⁾ | A |
| Power Dissipation ¹⁾ at $T_{amb} = 65 \text{ }^{\circ}\text{C}$ | P_{tot} | 200 ¹⁾ | mW |
| Junction Temperature | T_j | 125 | $^{\circ}\text{C}$ |
| Ambient Operating Temperature Range | T_{amb} | -65 to +125 | $^{\circ}\text{C}$ |
| Storage Temperature Range | T_S | -65 to +150 | $^{\circ}\text{C}$ |

¹⁾ Valid provided that leads at a distance of 4 mm from case are kept at ambient temperature

BAT42, BAT43

ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

| | Symbol | Min. | Typ. | Max. | Unit |
|--|-------------|------|------|-------------------|---------------|
| Reverse Breakdown Voltage tested with 100 µA Pulses | $V_{(BR)R}$ | 30 | — | — | V |
| Forward Voltage Pulse Test $t_p < 300 \mu s$, $\delta < 2\%$ at $I_F = 200 \text{ mA}$ at $I_F = 10 \text{ mA}$ at $I_F = 50 \text{ mA}$ at $I_F = 2 \text{ mA}$ at $I_F = 15 \text{ mA}$ | V_F | — | — | 1 | V |
| | V_F | — | — | 0.4 | V |
| | V_F | — | — | 0.65 | V |
| | V_F | 0.26 | — | 0.33 | V |
| | V_F | — | — | 0.45 | V |
| Leakage Current Pulse Test $t_p < 300 \mu s$, $\delta < 2\%$ at $V_R = 25 \text{ V}$ at $V_R = 25 \text{ V}$, $T_j = 100 \text{ }^\circ\text{C}$ | I_R | — | — | 0.5 | μA |
| | I_R | — | — | 100 | μA |
| Capacitance at $V_R = 1 \text{ V}$, $f = 1 \text{ MHz}$ | C_{tot} | — | 7 | — | pF |
| Reverse Recovery Time from $I_F = 10 \text{ mA}$ through $I_R = 10 \text{ mA}$ to $I_R = 1 \text{ mA}$, $R_L = 100 \Omega$ | t_{rr} | — | — | 5 | ns |
| Detection Efficiency at $R_L = 15 \text{ K}\Omega$, $C_L = 300 \text{ pF}$, $f = 45 \text{ MHz}$, $V_{RF} = 2 \text{ V}$ | η_V | 80 | — | — | % |
| Thermal Resistance Junction to Ambient Air | R_{thJA} | — | — | 0.3 ¹⁾ | K/mW |

¹⁾ Valid provided that leads at a distance of 4 mm from the case are kept at ambient temperature